

B.—THE SEA FISHING-GROUNDS OF THE PACIFIC COAST OF THE UNITED STATES, FROM THE STRAITS OF FUCA TO LOWER CALIFORNIA.

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14. THE PACIFIC COAST FROM THE STRAITS OF FUCA TO LOWER CALIFORNIA.

Except the salmon fisheries of the Sacramento and the Columbia, and the ocean fisheries in the immediate neighborhood of San Francisco, the fisheries of the Pacific coast exist only as possibilities. For the most part only shore-fishing on the smallest scale is done, and no attempt is made to discover off-shore banks, or to develop them when discovered. The present report can, therefore, only discuss the places where fishing is now actually carried on.

South of Monterey the entire coast is made up of alternations of rocky headlands (rincones), usually of sandstone, with long curves of sandy beaches, and is broken by occasional large and small bays (esteros and lagunas). The immediate neighborhood of the shore has almost always a sandy bottom, and is not very rich in either animal or vegetable life. Farther out, at varying distances, is a belt of rocky bottom, thickly covered with the great kelp (*Macrocystis pyrifera*), and beyond this there are occasional rocky reefs, usually continuous with the rincones on the shore and with the rocky islands, which have the same origin.

About these headlands and on the reefs some still-fishing is done, mainly for species of rockfish (*Sebastichthys*), and occasionally a gill-net is put down. The best known of these reefs are about the islands of Santa Catalina and Anacapa, but they doubtless exist around all of the islands in this region, which are mostly situated at a distance of about twenty miles from the shore. The middle parts of the channels between are, in summer, the resorts of the large migratory fish, which are caught in considerable numbers by trolling. Along the sandy beaches seining is practiced, and gill-nets of little depth are set to catch the common shore-fishes (largely surf-fish, roncadors, and flounders). In the bays of sufficient size seining is largely pursued, especially by the Chinese. In some of the smaller bays the oil-shark (*Galeorhinus*) breeds, and is taken by hook and line. Certain fishes (redfish, whitefish) are also taken in large numbers by still-fishing along the line of the kelp.

From Monterey to the mouth of the Columbia the coast is quite similar, but it is in general more rocky, with less sand, and presents an additional feature in the existence of rivers of considerable volume and more deeply indented bays. In all of these rivers there is a greater or less run of salmon in the fall, and in those fed by snow water, in the spring also; and in many these fish are taken for market purposes, in nearly every case by the use of gill-nets. The number of rocky reefs seems to increase to the northward, and the number of species inhabiting them is greater, so that both in Monterey Bay and about the Farallone Islands baited trawl-lines

are largely used for taking rockfish. In the bays seines are extensively used. Trolling and still-fishing in the kelp are little practiced, because the fishes caught in this way are mostly southern in their range. Between the rocky headland of Point Reyes and the entrance to the Golden Gate is a long stretch of smooth sandy bottom at a considerable depth. The bottom here swarms with flounders, and a mode of fishing is pursued analogous to the trawl-net fishing of the Atlantic—the fishing of the Paranzella. This mode of fishing is doubtless possible outside the kelp at many places along the coast, but the markets elsewhere are too small to make it profitable, excepting on a few small reefs in the neighborhood of the Farallones where rock-cod abound, and at the mouth of Monterey Bay; and, beyond this stretch of deep water now fished by the Paranzella, we can hardly say that any definite off-shore fishing-grounds exist south of the Straits of Juan de Fuca. Off the mouth of the Straits of Fuca, about eight miles northwest of Cape Flattery, there is an extensive halibut bank, where the Indians take halibut in large numbers, and which may some time become of importance to the white people.

The channels among the islands in Puget Sound and to the northward are resorted to by dogfish (*Squalus*), and the bays at certain seasons swarm with herring. In Alaska many banks frequented by halibut and cod doubtless exist, but thus far the only ones developed to any considerable extent are about the Shumagin Islands.